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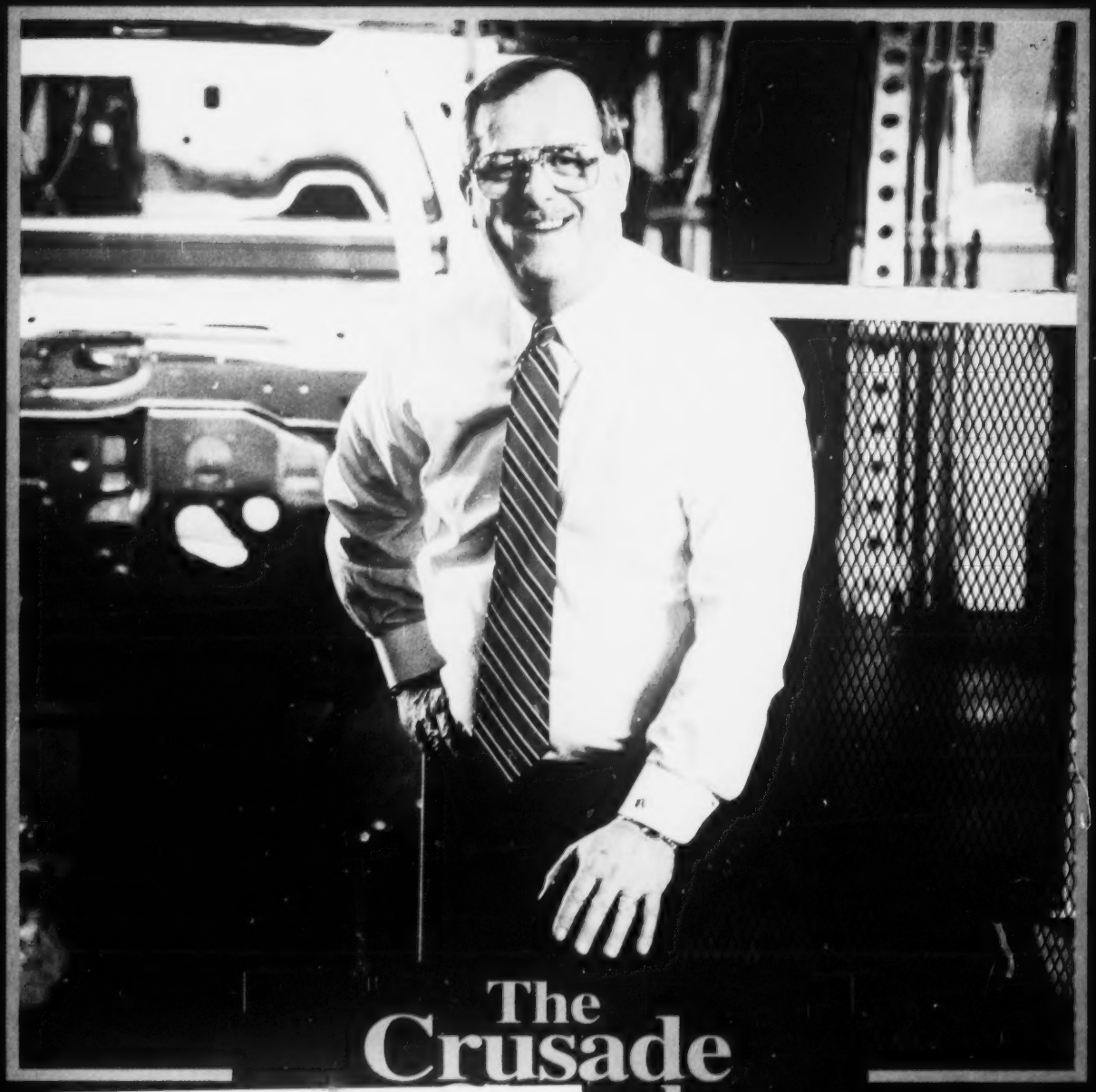
CHILTON'S
JUNE 1992

AUTOMOTIVE INDUSTRIES

THE PEOPLE — THE PRODUCT — THE PROCESS



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JOS MCNALLY SRI ACO EDITOR
CONGRESSIONAL INFO SERV
SUITE 800
4520 EAST WEST HWY
BETHESDA MD 20814-3389

Chrysler's vp of manufacturing Dennis Pawley presses a grass roots crusade.
COVER PHOTOGRAPHY: JAY ASQUINI

Volume 172, No. 6 June 1992

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CHILTON OFFICERS

Donald W. Chestnut, Sr. V.P. Operations/Admin.
Christopher M. Savine, V.P. Finance C.F.O.

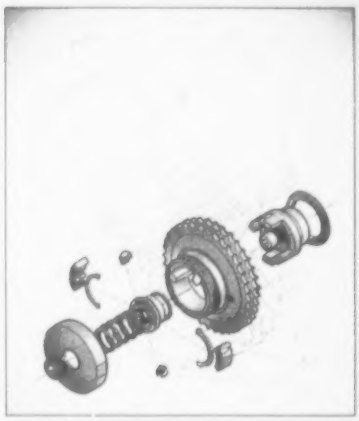
BPA ABP

ALL IN THE TIMING

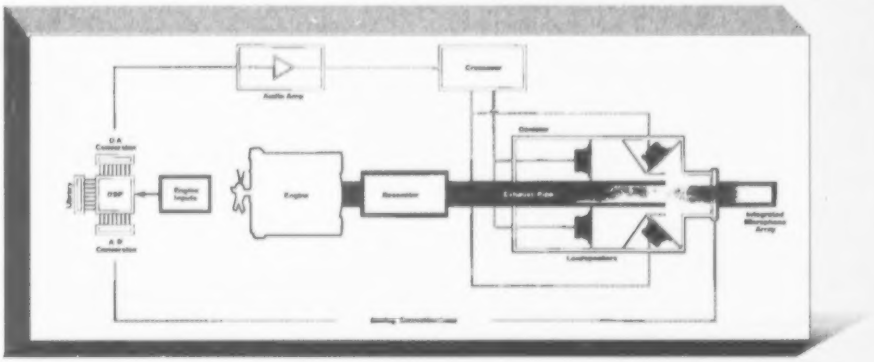
AC Rochester has patented a variable valve timing system, which according to the division will enter production on a GM engine "in the mid-'90s."

Designed to fit inside the camshaft's drive sprocket, **AC's Variable Cam Phaser (VCP)** consists of two opposed packs of helically shaped blocks. Shown here, the block packs are moved by a central plunger, controlled by oil pressure and springs.

As they move, the phase angle between the camshaft and sprocket is altered, shifting the cam between 'retard' and 'advance' timing modes.



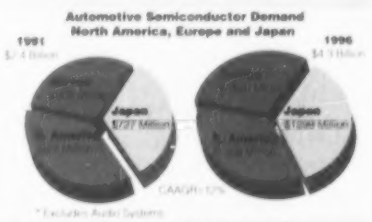
PIPE DREAMS



Arvin Industries is developing this **tunable electronic muffler system** for a mid-'90s luxury car. The analog-to-digital system tracks engine speed at up to 5 rpm/ms; Arvin predicts 3-5% fuel economy gains. Contact Joe Atkins, president of Arvin's OEM group, at 812-379-3399. Fax 812-379-3227.

LET THE CHIPS FALL

Automotive semiconductor sales grew a strong 7% to $2.47 billion worldwide in 1991 says BIS Strategic Decisions. The British market-research firm forecasts that **demand for semiconductors in the US, Europe and Japan will grow to $4.4 billion in 1996**—a compounded growth rate of 12% per year—not including audio systems. The highest growth rate, 14% per year, is expected to take place in Europe, largely due to stricter emission regulations that will take effect at the end of this year. Growth in the US is forecast at 10% a year, with highest growth by value coming from multiplexing, ABS, adaptive suspensions and airbags. Japanese growth of 12% a year will be powered by many of the same factors, plus navigation systems.



STRAIGHT SHOOTER

Lotus Engineering, with England's Defense Research Agency's Military Division, has **fitted active suspension to an Alvis Scorpion light tank**! Ride comfort is increased, letting the tank travel faster over rough terrain. Gun aim and control is also improved. Even more bizarre, Lotus is also working on special horseshoes for UK race horses. The shoes are designed to prevent hoof and leg injuries on hard dirt surfaces.

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by JOSEPH M. CALLAHAN

CHRYSLER'S CRYSTAL BALL

They predicted the start of the current recession. Now Chrysler's chief economist and his tiny staff are zeroing in on the recovery.

Chrysler chief economist Donald P. Hilty

"We're running Chrysler on the basis that there will be no recovery until August, at least," says Donald Hilty, Chrysler Corporation's chief economist. "We're ordering our materials and producing vehicles in preparation for a sales rise in the Autumn."

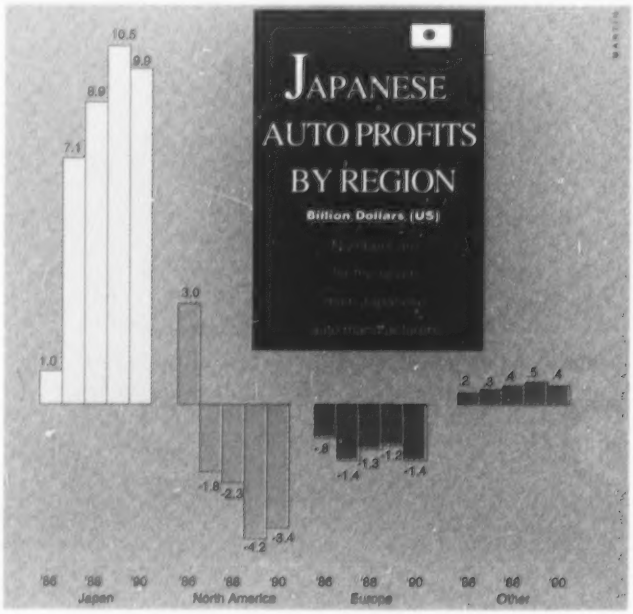
Hilty's outlook comes from the *Auto Industry Leading Indicators*, a compilation of over two dozen economic indicators made by Hilty and his six-person Economics staff. (Hilty had to persuade former vice-chairman Gerald Greenwald to resurrect Chrysler's Economics staff in 1980. He was put in charge and has headed it ever since.) Getting these indicators right means accurately predicting a recovery or a recession.

Despite his cautious optimism for 1991 an 8% rise in US vehicle sales the Leading Indicators are still not strong enough for Hilty to tell Chrysler chairman Lee Iacocca that the current recession will end soon, or that Chrysler should prepare for a return of strong sales. Each month, Hilty summarizes the eight Leading Indicators for Chrysler's Board. 'Stop light' colors are assigned to each Indicator. When enough of the indicators turn from red or yellow to green for three consecutive months, Hilty passes the word along to Iacocca, to Chrysler's production planning and purchasing staffs, and others.

"It seems to work," he says, noting that Chrysler accurately predicted when the current recession would start. "The biggest problems we have are Consumer Attitudes and Disposable Income. Both of these have changed to 'yellow' recently, from 'red'." The six other Leading Indicators are Price Pressures, Interest Rates and Unemployment Claims ('green'); and Workweek, Stock Market and Consumer Debt ('yellow'). To identify the all-important Consumer Attitudes, Hilty's staff combines the findings of the University of Michigan and the Conference Board, a non-profit business research organization.

"Consumers are more pessimistic than they were in 1982," he comments. "This is worrisome to us, and we think the Bush Administration should be looking at this, rather than thinking it's going to be a shallow recession. The average of these two indices seems to improve a few months before the auto industry improves." He lists health care costs, US tax system, and the high cost of US capital as the three major problems facing American automakers in their drive to become internationally competitive. For example, Chrysler pays $700 for health care on each car it builds. He also notes that while most other industrial countries finance their governments through consumption or Value Added Taxes, the US uniquely persists in production taxes. The VAT encourages exports because it's not applied to exports, he says, thereby making the products of these countries very competitive overseas. Hilty also sees other trends in the auto industry:

- Federal Reserve chairman Alan Greenspan has indicated he's aiming for a less than 2% annual inflation rate, compared with the current 3%.
- The industry's current over-capacity situation will probably decline toward the mid-1990s, as GM closes assembly plants and some Japanese transplant facilities become vulnerable.
- A major government action to stimulate the US economy may still come, in this presidential election year. AI



Chrysler claims Japanese vehicle manufacturers have been making some $10 billion a year in Japan, while losing an average of about $3 billion annually in the US. A new Chrysler booklet, Cars... America... Japan... Jobs... Facts, shows profits and losses of those companies in Japan, North America and Europe from 1986 to 1990.